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ABSTRACT

The purpose of this study is to determine whether the racial attitudes of black preschool children can be modified using different treatment methods. The hypotheses were as follows: (1)
Racial attitudes will be modified, using operant learning procedures and a black consciousness curriculum; (2) A black consciousness curriculum will result in greater positive change in racial attitudes than operant learning procedures; (3) There will be no significant difference in racial attitude change: (a) between boys and girls and (b) between black preschool children from intact and non-intact--e.g., father present and father absent--homes; and, (4) There will be a positive relationship between a preschool child's racial attitude and his racial preference. Sixty-five lower socio-economic black preschool children were randomly selected from three integrated day care centers located in three suburban communities within the Detroit metropolitan area. Four sets of materials were used: (1) a revised picture-story procedure; (2) the picture-story technique; (3) a modification of the Clark dolls test; and, (4) materials developed by the author to provide a preschool curriculum, from which the children could learn black culture and history. (Author/JM)

AN EXPERIMENTAL STUDY OF RACIAL ATTITUDE CHANGE IN BLACK PRESCHOOL CHILDREN

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The purpose of this study is to determine whether the racial attitudes of Black preschool children can be modified using different treatment methods. Several researchers (Clark and Clark, 1939; Goodman, 1952; Stevenson, 1958; Asher and Allen, 1969) have demonstrated that Black preschool children consistently reject their own ethnic identity. There have been few attempts to systematically modify the racial attitudes of Black preschool children reported in the literature.

Lewin (1947) noted that for a minority member to develop optimally as a person, and to have healthy relationships with out-group members, the person first has to achieve a clear sense of in-group identification. The development of ethnic identity in Black preschool children begins with an awareness of in-group members and moves toward an evaluation of out-group members around the age of 2-1/2 (Clark and Clark, 1939; Goodman, 1952).

This report is based on part of a dissertation submitted to the University of Michigan, 1970. The author is thankful for the assistance of Percy Bates, M. Clemens Johnson, Finley Carpenter, William Cove, Richard Mann, and to J. E. Williams for the use of his stimulus materials.

Renninger and Williams (1966) studied the degree of awareness of white being evaluated as good and black being seen as bad among Caucasian preschool children. They also attempted to determine if this awareness of color connotations developed prior to, concurrent with, or subsequent to the development of the child's awareness of racial differences. The tendency to associate positive words with whites, and negative words with Blacks, was already present among three year old children, and the tendency became more evident among four and five year olds.

Williams and Roberson (1967), extending the Renninger study, developed a test for measuring racial attitudes of preschool children.

They used black-white stimulus and also twenty evaluative adjectives (good-bad, clean-dirty, etc.) The results indicated that white preschool children developed color evaluations and racial attitudes concurrently.

Williams and Edwards (1969) attempted to study the effect of black-white concept attitudes in preschool children, while trying to change their black-white concept attitudes. They found that operant learning procedures were effective in weakening a child's black-white concept attitude. White children displayed less tendency to evaluate Black people negatively. The study provided evidence in support of their hypothesis that there is a functional link between black-white concept attitude and racial concept attitude.

Roth (1969) has provided us with a systematic attempt to measure changes in racial attitudes of white children, as a result of making Black history an integral part of the curriculum. He found that regardless of the type of classroom, segregated or integrated, no change in white children's racial attitudes occurred as a result of the integral curriculum.

The present study attempted to partially replicate the work of Williams and Edwards (1969) and to test the effect of a modified Black consciousness curriculum on Black preschool children. The hypotheses were:

- 1) Racial attitudes will be modified, using operant learning procedures and a Black consciousness curriculum.
- 2) A Black consciousness curriculum will result in greater positive change in racial attitudes than operant learning procedures.
- 3) There will be no significant difference in racial attitude change between boys and girls.
- 4) There will be no significant difference in racial attitude change of Black preschool children from intact (father present) and non-intact (father absent) homes.
- 5) There will be a positive relationship between a preschool child's racial attitude and his racial preference.



Method

Subjects

Sixty-five lower socio-economic Black preschool children were randomly selected from three integrated day care centers. The centers were located in three suburban communities within the Detroit metropolitan area. The subjects ranged in age from 3.5 to 5.5 years.

Apparatus

Four sets of materials were used in this study. The first was the revised picture-story procedure used in assessing connotative meanings of black and white (Williams and Roberson, 1967). The second set of materials was the picture-story-technique, designed by Williams and Roberson (1967) to provide a measure of attitude toward dark-skinned (Black) and light-skinned (Caucasian) persons, as well as a measure of sex role behaviors. The third set of materials was developed by Asher and Allen (1969) as a modification of the Clark (1939) dolls test, which provided a measure of the child's racial preference from stories related to evaluative choices between a Black and a Caucasian doll. The fourth set of materials was developed by the author to provide a preschool curriculum, from which the children could learn Black culture and history through art, music, poems, folklore, and play activities.



Color Meaning Picture Series. There were a total of 12 pictures six tests of different animals (T) and six filler pictures (F). Each 11 x 14-inch picture card presented drawings of two animals or toys side by side, identical except for color. The Es showed the S a picture and told a two or three sentence story about the picture. A typical T story was "One of these rabbits is good. He helps mother rabbit care for all his little brothers and sisters. Which one is the good rabbit?" A typical F story was "One of these planes carries a lot of packages from one city to another. Which one carries the packages?"

Four story questions are given for each of the 12 pictures. The procedure involved displaying the series a total of four times, each time in the same order but with different stories and, for the test pictures, with different evaluative adjectives. Thus, S had a total of 24 opportunities to respond to the black and white test pictures in indicating positive or negative evaluation. The positive evaluative adjectives (PEAs) were clean, nice, good, pretty, smart, and kind; the negative evaluative adjectives (NEAs) were dirty, naughty, bad, ugly, stupid, and mear.

Racial Attitude-Sex-Role Picture Series (RA). This series was designed along the same general lines as the revised color-meaning series. Here, racial attitude test cards and evaluative stories occupied even-numbered positions, while the odd-numbered positions contained sex-role



items. Each of the twelve 9 x 12-inch stimulus cards consisted of two full-length drawings of human figures of the same age level. The six racial attitude test cards displayed two figures which were identical except for hair and skin color; one figure (Caucasian) had light yellow hair and pinkish-tan skin, while the other figure (Black) had black hair and medium-brown skin. The figures, drawn with minimal facial characteristics, were posed in neutral standing, walking, or sitting positions on a plain white background. A typical racial attitude story was, "Here are two girls. Everyone says that one of them is very pretty. Which is the pretty girl?" Each of the six sex-role pictures consisted of two figures, one male and one female, with the same hair and skin color. A typical sex-role story was, "After every meal, one of these two people clears the table and washes the dirty dishes. Which person washes the dishes?"

The 12 pictures in the combined racial attitude-sex-role procedure were administered twice in the same order, with a different story told each time for a given picture. The adjectives used in the key questions of the racial attitude test stories were the same 12 evaluative adjectives which were employed in the test items of the revised color-meaning test.

To score the RA test, the E added together the number of times the white figure was chosen by the S for a positive adjective (good, clean, pretty, smart, nice, kind) and the number of times the Brown figure was chosen in response to a negative adjective (bad, mean, ugly, stupid,



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naughty). The S received one point each time he chose the expected response and 0 points if he indicated an opposite choice. Each S could receive from zero to twelve points with the higher numbers indicating a negative attitude towards his ethnic identity.

Racial Preference Test (RP). Two dolls are used in this test.

The dolls had no hair and were identical in age and all other physical features, except skin coloring. The Black doll had a medium brown skin coloring, while the Caucasian doll had pinkish tan skin. The dolls were placed in a prone position and the subject was asked four questions. An example of the question was, "Which doll is the nice color?" The dolls and the questions were rotated for each subject. The subject's racial preference score was determined by the number of times he chose the white doll in response to a positive question, and the number of times he chose the Black doll in response to a negative question. Each time he chose as indicated above he received two points; each time he reversed his choice he received one point. The subject could receive from four to eight points, with the higher score representing a negative racial preference, and rejection of his ethnic identity.

Black Consciousness Series. The BC educational materials were designed to help the Ss learn about the positive aspect of their blackness, or Black Identity. Games, arts and crafts, and songs related



to Blackness were used. There were field trips within the Black community to identify positive Black people. Coloring books with short stories about famous Blacks who made a contribution to this country were used to help the Ss get a good appreciation of their past. The six Black Teacher Aides (TA) were trained to teach their lessons in the same way in their small groups. They taught a total of eighteen one hour sessions related to the positive aspects of Blackness.

Pretest

The subjects were given the racial attitude (Williams and Roberson, 1967) and the racial preference (Asher and Allen, 1969) tests, and randomly placed in three treatment groups. The groups were: the Black consciousness group (BC) N=23; the positive reinforcement group (PR) N=22; and the negative reinforcement group (NR) N=20. The BC group was randomly selected from one nursery center, while the PR and NR groups were randomly selected from the other centers, to avoid exposure to the different treatment programs.

The pre- and post-testing was done by four Black adults (E). Two male and two female Es tested approximately the same number of male and female subjects. An attempt was made to control experimenter bias by having each E posttest only half of the subjects he pretested with the rest

of his testing sample coming from the other groups. Each E spent two sessions observing and playing with the children.

Experimental Groups

Black consciousness group. The BC group was devided into groups of four, for instruction by six trained Black teacher aides (TA). Each TA taught the same lesson in the same way. The three one-hour per week sessions opened with a poem, moved to a story about a famous Black person, and usually closed with a song or dance related to some positive aspect of Black life.

The positive reinforcement group. The subject was taken to a private room and seated across the table from a trained behavior modification aide (BMA). He was told that he would be shown some pictures and hear a story about each one. The subject was asked to guess the ending of the story. For each correct response the subject received three M & Ms (candies.)

The subject was shown a series of twelve pictures four times, and stories with evaluative meanings were read to him. He was asked to choose which figure the story was about. The subject received M & Ms each time he chose the Black animal figure in response to a positively ending in a story and when he chose the white animal figure in response to a story which had a negative ending. The odd-numbered pictures were



fillers (F) in which the subject was told a nonevaluative story. The subject received reinforcement on alternate filler stories regardless of his choice. At the end of the game, the subject received a handful of pennies and told that the BMA would return in two weeks to see how much he learned.

Approximately two weeks later the subject was again seen by the BMA and the procedure was repeated. The first twelve responses were not reinforced, however, the rest followed the previous pattern. At the end of the game, the subject was again sworn to secrecy and was told that a different person would return and play a different game with him.

Negative reinforcement group. The NR group was handled the opposite of the PR group. The subject was given 30 pennies to hold and told that he would have to forfeit two of the pennies each time he made a wrong response. The subject gave up two pennies each time he chose a white figure on the RA stories in response to a positive ending and the Black figure in response to a story with a negative ending. In addition, the BMA would say wrong. The sessions were handled as the PR group and at the end the subject was given some candy (M & Ms), sworn to secrecy and told the BMA would see him in two weeks.

The second session went exactly like the second session in the PR group. The subject was sworn to secrecy and told that someone would come in a couple of weeks to play a different game with him.



Posttest

Eight weeks after the project began, the subjects in all three treatment groups were given the racial attitude and the racial preference tests. The Es gave each subject a bag of candy (M & Ms) after the test.

Results

The pre and posttest racial attitude and racial preference mean scores for the three treatment groups are found in Table 1. The pretest mean RA score for the BC group (7.48), the positive reinforcement group (7.45), and the negative reinforcement group (8.50) indicated that there were no significant differences between the groups. There were no significant differences between the groups. There were no significant differences found on the pretest racial preference mean scores for the BC group (6.52), the PR group (6.68), and the NR group (6.25).

Insert Table 1 about here

<u>Hypothesis 1.</u> Table 2 presents the final and adjusted RA and RP means, and the separate covariance analysis of racial attitude and racial preference scores for the three treatment groups. The RA results (F = 6.37; df 2, 61; p < .01) indicated that there was a significant difference in racial attitude change between the three groups. The results of the RP scores



 $(\underline{F} = 0.26; \underline{df} \ 2.61; \underline{p} \ 0.26)$ indicated that there was no significant difference between the three treatment groups in racial preference change.

Insert Table 2 about here

Hypothesis 2. Table 3 presents the mean comparisons of the change scores of the three treatment groups using the Newman Keuls method (Weiner, 1962.) The results did not support the hypothesis, indicating that the negative reinforcement group made significantly greater positive racial attitude change than either the BC group (P.01) or the PR group (P.01). There was no significant difference between the BC and the PR groups in racial attitude change.

Insert Table 3 about here

The pre- and posttest racial attitude and racial preference mean scores for the male and female subjects are found in Table 4. There was no significant difference between the pretest RA mean scores of the male Ss (8.08), and the female Ss (7.39). There was no significant difference

between the pretest RP mean scores of the male Ss (6.78) and the female Ss (6.11). The female Ss mean scores were slightly lower on both tests.

Insert Table 4 about here

Hypothesis 3. The RA and RP final and adjusted means, and the separate covariance analysis for the male and female subjects of the total sample are presented in Table 5. The results of the RA scores (F = .01, df 1, 62, P = .01) and the results of the RP scores (F = 2.50, df 1, 62, P = 2.50) both supported the hypothesis that there were no significant differences in RA and RP change between the two groups.

Insert Table 5 about here

The pre- and posttest racial attitude and racial preference mean scores for the intact and non-intact groups are found in Table 6. There was no significant difference between the pretest RA mean scores of the intact (7.31) and non-intact (8.50) groups. The RP scores for the intact group (6.33) and non-intact group (6.73) indicated that there was no significant difference between the two groups.



Insert Table 6 about here

Hypothesis 4. Table 7 presents the final and adjusted RA and RP means, and the separate covariance analysis of racial attitude and racial preference scores for the intact and non-intact groups of the total sample. The results of the RA score (f = 0.11, df 1, 63, P = 0.11) and the results of the RP scores (F = 1.38, df 1, 63, P = 1.38) both supported the hypothesis that there were no significant differences between the two groups.

Insert Table 7 about here

Hypothesis 5. Table 8 represents a summary of intercorrelations between the child's age, pre- and posttest racial attitude, racial preference and sex role scores. The data supports the hypothesis that there is a high positive correlation between pre- and posttest racial attitudes and racial preference test scores.

Insert Table 8 about here



Discussion

The results of this study support the hypothesis that racial attitudes of Black lower class, preschool children can be positively changed. The results also indicate that negative reinforcement for this group of youngsters made significantly positive change in racial attitudes. The results were somewhat similar to those found by Williams and Edwards (1969.) The data suggests that negative reinforcement may closely approximate child rearing patterns within the lower class subculture as a possible explanation for this result.

There were no differences in the change in RA between males and females for the total sample. Nor was there a difference in RA and RP change of intact and non-intact groups for the total sample. Both findings appear to be contrary to what we could expect to find.

The study also found that while there was a close relationship between the subject's racial attitude and racial preference, a change in racial attitudes did not mean a change in the subject's racial preference. The treatment had very little effect upon racial preference change. Racial attitude and racial preference appear to be different aspects of the same dimension of ethnic identity.

Williams and Edwards (1969) indicated that the higher RA scores (9 - 12) of the Caucasian Ss meant a rejection of Black People. A lower



score (3 - 6) for the Black Ss means that they made a significant selection of the Black figure for positive responses and the white figure for negative responses; therefore accepting one's own ethnic identity.

Table 9 presents: (1) a comparison of the total pretest mean RA score (7.55), with the age equivalent portion of Williams (1969) white sample mean RA score (10.26); (2) this sample's pretest mean RA score is compared with H. McAdoo (1970) combined northern and southern Black sample mean score (8.71).

The Ss in this study were significantly more accepting of Black ethnic identity than the Williams sample ($\underline{t} = 6.28$, $\underline{df} 2$, 137; $\underline{p} < .001$). The total sample was found to be significantly more positive towards their own ethnic identity than the H. McAdoo (1970) combined sample ($\underline{t} = 2.32$; $\underline{df} 2$, 137; $\underline{p} < .05$). In that study, no RA differences had been found between the two geographic groups.

Insert Table 9 about here

The data suggests that Black preschool children are beginning to develop a more positive in-group identification or ethnic identity. This may be the result of the influence of the Black power movement and the increasing use of Blacks in positive positions in the mass media.



REFERENCES

- Asher, R. and Allen, V. Racial Preference and Social Comparison Process.

 <u>Social Issues</u>, 1969, 25, 1, 157-166.
- Clark, K. B. and Clark, M. K. The Development of Consciousness of Self in the Emergence of Racial Identification in Negro Pre-school Children. <u>Journal of Social Psychology</u>, 1939, 10, 591-599.
- Goodman, M. E. Race Awareness in Young Children. New York, Collier-Macmillan, 1964.
- Greenwald, H. J. and Oppenheim, D. B. Reported Magnitude of Self-misidentification Among Negro Children. <u>Journal of Personality and Social Psychology</u>, 1968, 5, 149-152.
- Lewin, K. Resolving Social Conflicts. New York, Harper Brothers, 1948.
- McAdoo, H. Racial Attitudes and Self Concepts of Black Pre-school Children. Doctoral dissertation, University of Michigan, 1970.
- McAdoo, J. An Exploratory Study of Racial Attitude Change in Black Preschool Children Using Differential Methods. Doctoral dissertation, University of Michigan, 1970.
- Renninger, C. A. and Williams, J. E. Black-White Color Connotations and Racial Awareness in Pre-school Children. <u>Journal of Perceptual Motor Skills</u>, 1966, 22, 77-78.
- Roth, R. The Effects of Integral Curriculum on Negro and White Students. Unpublished doctoral dissertation, 1969.
- Stevenson, H. W. Racial Awareness in Young Children. In W. W.

 Hartup and N. L. Smotherhill (eds.), The Young Child: Review of
 Research. Washington, D. C. National Association for the Education of Young Children, 1967, 206-213.
- Weiner, B. J. Statistical Principles in Experimental Design. New York, McGraw-Hill, 1962.
- Williams, J. E. Connotations of Color Names Among Negroes and Caucasians. <u>Journal of Perceptual Motor Skills</u>, 1964, 18, 721-731.



- Williams, J. E. Connotations of Racial Concepts and Color Names.

 <u>Journal of Personality and Social Psychology</u>, 1967.
- Williams, J. E. and Edwards, C. D. An Experimental Modification of Color Concepts and Racial Attitudes in Pre-school Children. Child Development, 1969, 40, (3), 737-750.

Table 1

Means and Standard Deviations of Pre and Post Racial Attitude and Racial Preference Scores for the Three Treatment Groups

Race	ВС	3	PR	•	NR	
Attitude	Pre	Post	Pre	Post	Pre	Post
N.	23		22		20	•
M	7.48	8.48	7.45	7.77	8.50	6.30
\$D	2.78	3.01	2.77	2.74	2.95	3.03

. Race ·	В	C	PR			NR
Preference	Pre	Post	Pre	Post	Pre	Post
N	23	•	- 22		20	
M	6.52	6.39	6.68	6.77	6.25	6.40
\$D	1.34	. 1.44	1.25	1.45	1.33	1.77

Table 2

Final and Adjusted Means of Three Treatment Groups and Analysis of Covariance of Racial Attitude and Racial Preference Scores

`Measure	Group	Final Mean	Adj. Mean	Source <u>df</u>	Mean Square <u>F</u> p
Racial Attitude	ВС	8.88	8.64	Between Groups 2	40.89 6.37** .01
	PR PR NR	7.77 6.30	7.95 5.92	Within Groups <u>61</u> Total 63	6.42
Racial Preference	BC	6.39	6,38	Between	
·	PR	6.77	6.68	Groups 2 Within Groups <u>61</u>	0.51 0.26 NS 1.93
	N R	6.40	6.52	Total 63	

^{**} p \(\left(01 \) (4.93)

Table 3

Newman-Keuls Mean Comparison of the Change Scores

of Three Treatment Groups

Column	. Row		P
2.20	0.0		
-0.32	.2.52** 0.	0	.01
1.00	3.20** 0	68 0.0	.01
	2.59 0	.32 -1.00	



Table 4

Mean and Standard Deviation of Pre- and Posttest Racial Attitud

Mean	and Standard	Deviation of Pre- and Posttest Racial Attitude
	and Racial	Preference Scores for Male and Female
		Subjects of the Total Sample

Race		Male	1	emale		·
Attitude	Pre	Post	Pre		Post ·	•
N	36		29			•
M	8.08		7.39		7.43	
SD .	2.45	2.83	3.26	;	3.30	

Race Preference	. Pre	Male	Post	Pre	emale Post
N M SD:	36 6.7 1.16		6.81 1.41	29 6.11 1.40	6.14 1.58

Table 5

Final and Adjusted Means, Analysis of Covariance of Racial Attitude and Racial Preference for Male and Female Subjects of the Total Sample

Measure	Group	Final Mean	Adj. Mean	Source	df	Mean Square	<u>P</u> .	p
Racial			•	Between				
Attitude	Male	7.68	7.54	Groups	1	.09	.01	NS
	_			Within				
	Female	7.43	7.61	Groups	<u>62</u>	7.63		
				Total	63			
Racial		•		Between				
Preference	Male	6.81 .	6.67	Groups	1	6.37	2.50	NS
				Within				
	Female	6.14	6.32	Groups	<u>62</u>	2.55		
				Total	63			

Table 6

Racial Attitude and Racial Preference Means and Standard Deviations for Intact and Nonintact Subjects of the Total Sample

Race Attitude	Intac Pre	t Post	Noninta Pre	act Post
N M SD	39 7.31 2.84	7.44 3.21	26 8.50 2.70	7.77 3.76
Race	Intact		Noninta	ict
Preference	Pre	Post	Pre	Post
N M SD	39 6.33 1.36	6.28 1.61	26 6.73 1.19	6.88 1.31

Table 7

Racial Attitude and Racial Preference Final and Adjusted Means and Analysis of Covariance for the Intact and Nonintact Subjects

of the Total Sample

	· · · · · · · · · · · · · · · · · · ·				<u> </u>			Teg
Measure	Group	Final Mean	Adj. Mean	Source	df	Mean Square	F	p
Racial Attitude	Intact	7.44	7.66	Bewteen Groups Within		.80	0.11	NS
•	Nonintact	7.77	7.43	Groups	<u>63</u>	7.62	•	
	•			Total	64			
Racial Preference	Intact	6.28	6.36	Between Groups	1	2.60	1.38	NS
	Nonintact	6.88	6.77	Within Groups	<u>63</u>	1.88		
				Total	64			
					<u></u>			

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Table 8

Intercorrelations of Total Sample (N = 65) for Seven Variables

Child's age	1	•		•			
Pre, RA	2	.203					
Post, RA	3	.370**	.490**				
Pre, RP	4	.389**	.628**	.459**			
Post, RP	5	.415**	.489**	.563**	.572**	•	
Pre, SR	6	.412**	.317**	.052	.321**	.269*	
Post, SR	7	.443**	.240*	.314**	.296*	.362**	.449**
		1	. 2	3	4 .	. 5	6

^{*} p < .05 (.233) ** p < .01 (.302)

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Table 9

Comparison of the Means and Standard Deviation of Total I with Williams' Combined Groups I & II, the H. McAdoo's Nothern and Southern Sample

Group	Mean	Standard Deviation	N	df	
Total I (J. Mc)	7.55	3.09	65	137	6.28***
Combined Gp. I & II (Wms)	10.26	1.90	74		
Total I (J. Mc)	7.55	3.09	65	141	2.32*
Nothern and Southern Sample (H. Mc)	8.71	·2.85	78		

^{. *} p < .05
*** p < .001